

This listing of claims will replace all prior versions,  
and listings, of claims in the application:

1 Claim 1 (currently amended): A computer-implemented  
2 method for determining equivalent descriptions for an  
3 information need, comprising:  
4       identifying a list of queries issued by one or more  
5 users;  
6       identifying a candidate pair of equivalent  
7 descriptions by locating two queries that refer to the  
8 same information need;  
9       calculating a score for the candidate pair dependent  
10 on the frequency with which the candidate pair occurs in  
11 the list; and  
12       determining that each half of the candidate pair is  
13 an equivalent description for the information need if the  
14 score calculated for the candidate pair is above a  
15 defined threshold value.

1 Claim 2 (currently amended): The computer-implemented  
2 method of claim 1, wherein identifying a candidate pair  
3 comprises:  
4       locating two queries that contain at least one term  
5 in common; and  
6       identifying as a candidate pair the portions of the  
7 two queries that are not in common.

1 Claim 3 (currently amended): The computer-implemented  
2 method of claim 1, wherein identifying a candidate pair  
3 comprises:  
4       identifying, in a first description, a term T1  
5 having characters C<sub>i</sub>, where i=1 through n;

6 identifying, in a second description, a sequence of  
7 n terms,  $T_{2_1}, T_{2_2}...T_{2_n}$ ; and

8 determining that term  $T_1$  and terms  $T_{2_1}, T_{2_2}...T_{2_n}$  are a  
9 candidate pair if each  $C_i$  matches the first letter of  $T_{2_i}$ .

1 Claim 4 (currently amended): The computer-implemented  
2 method of claim 1, wherein calculating a score comprises:

3 determining a first frequency with which the  
4 candidate pair occurs within the list;

5 determining a second frequency with which one half  
6 of the candidate pair occurs within the list; and

7 calculating a score based on a ratio of the first  
8 frequency and the second frequency.

1 Claim 5 (currently amended): The computer-implemented  
2 method of claim 1, further comprising excluding any  
3 candidate pair with a frequency of occurrence in the list  
4 below a defined threshold.

1 Claim 6 (currently amended): The computer-implemented  
2 method of claim 1, further comprising excluding any  
3 candidate pair wherein one half of the candidate pair  
4 contains a misspelled term.

1 Claim 7 (currently amended): The computer-implemented  
2 method of claim 1, further comprising excluding any  
3 candidate pair wherein it is determined that one half of  
4 the candidate pair is an alternative rather than an  
5 equivalent for the second half of the candidate pair.

1 Claim 8 (currently amended): The computer-implemented  
2 method of claim 7, wherein the determination comprises:

3        locating a collection of documents;  
4        identifying lists within the collection, wherein  
5 each list contains both halves of the candidate pair; and  
6        determining that one half of the candidate pair is  
7 an alternative for the second half based on the frequency  
8 with which each half occurs in the lists.

1 Claim 9 (currently amended): The computer-implemented  
2 method for determining equivalent descriptions for an  
3 information need, comprising:  
4        identifying a plurality of descriptions that are  
5 associated with a plurality of information needs;  
6        identifying a candidate pair of equivalent  
7 descriptions by locating two descriptions that refer to  
8 the same information need;  
9        calculating a score for the candidate pair dependent  
10 on the frequency with which the candidate pair occurs in  
11 the plurality of descriptions; and  
12        determining that each of the candidate pair is an  
13 equivalent description for the information need if the  
14 score is above a defined threshold.

1 Claim 10 (currently amended): The computer implemented  
2 method of claim 9 wherein the plurality of descriptions  
3 comprises an historical log of user queries.

1 Claim 11 (currently amended): The computer-implemented  
2 method of claim 10, further comprising sorting the log by  
3 user.

1 Claim 12 (currently amended): The computer-implemented  
2 method of claim 11, further comprising sorting the log by  
3 the time when the query was issued.

1 Claim 13 (currently amended): The computer-implemented  
2 method of claim 9 wherein identifying a candidate pair  
3 comprises:

4 identifying two descriptions that contain a common  
5 term; and

6 identifying as a candidate pair the terms not in  
7 common between the two descriptions.

1 Claim 14 (currently amended): The computer-implemented  
2 method of claim 9 wherein identifying a candidate pair  
3 comprises:

4 comparing each letter of a term in a first  
5 description against the corresponding first letter of  
6 terms in a second description; and

7 determining, based on the comparison, that the term  
8 in the first description and the corresponding terms in  
9 the second description are a candidate pair.

1 Claim 15 (currently amended): The computer-implemented  
2 method of claim 9 wherein calculating a score comprises:

3 determining a first frequency with which the  
4 candidate pair occurs within the plurality of  
5 descriptions;

6 determining a second frequency with which one half  
7 of the candidate pair occurs within the plurality of  
8 descriptions; and

9 calculating a score based on a ratio of the first  
10 frequency and the second frequency.

1 Claim 16 (currently amended): The computer-implemented  
2 method of claim 9 wherein calculating a score comprises:  
3 determining a first frequency with which the  
4 candidate pair occurs within the plurality of  
5 descriptions;  
6 determining a second frequency with which one half  
7 of the candidate pair occurs within the plurality of  
8 descriptions;  
9 determining a third frequency with which the other  
10 half of the candidate pair occurs within the plurality of  
11 descriptions;  
12 calculating a score bases on a ratio of the first  
13 frequency and the smaller of the second and third  
14 frequencies.

1 Claim 17 (currently amended): A computer-implemented  
2 method for determining synonyms, comprising:  
3 obtaining a list of search queries issued by one or  
4 more users;  
5 sorting the list first by user and second by the  
6 time when the query was issued;  
7 selecting a set of adjacent queries for a single  
8 user;  
9 identifying, from the set, two queries that contain  
10 at least one query term in common;  
11 identifying as a candidate synonym pair the uncommon  
12 portions of the two queries;  
13 calculating a score for candidate synonym pair  
14 dependent on the frequency with which the candidate  
15 synonym pair occurs in the list; and

16           determining that each half of the candidate synonym  
17 pair is a synonym of the other half if the score is above  
18 a defined threshold.

1   Claim 18 (currently amended):   The computer-implemented  
2 method of claim 17, wherein calculating a score  
3 comprises:

4           determining a first frequency with which the  
5 candidate synonym pair occurs within the list;  
6           determining a second frequency with which one half  
7 of the candidate pair occurs within the list; and  
8           calculating a score based on a ratio of the first  
9 frequency and the second frequency.

1   Claim 19 (currently amended):   The computer-implemented  
2 method of claim 17, further comprising excluding any  
3 candidate synonym pair with a frequency of occurrence  
4 below a defined threshold.

1   Claim 20 (currently amended):   The computer-implemented  
2 method of claim 17, further comprising excluding any  
3 candidate synonym pair wherein one half of the candidate  
4 synonym pair contains a misspelled term.

1   Claim 21 (currently amended):   The computer-implemented  
2 method of claim 17, further comprising excluding any  
3 candidate synonym pair wherein it is determined that one  
4 half of the candidate synonym pair is an alterative  
5 rather than an equivalent for the second half of the  
6 candidate synonym pair.

1 Claim 22 (currently amended): The computer-implemented  
2 method of claim 21, wherein the determination comprises:  
3 locating a collection of documents;  
4 identifying lists within the collection, wherein  
5 each list contains both halves of the candidate synonym  
6 pair; and  
7 determining that one half of the candidate synonym  
8 pair is an alternative for the second half based on the  
9 frequency with which each half occurs in the lists.

1 Claim 23 (currently amended): A computer-implemented  
2 method for determining equivalent descriptions for an  
3 information need, comprising:  
4 creating a list of anchor text units;  
5 determining a subset of the list that refers to the  
6 same information need;  
7 locating, within the subset, two anchor text units  
8 that contain at least one term in common;  
9 identifying as a candidate pair of equivalent  
10 descriptions the uncommon portions of the two anchor text  
11 units;  
12 calculating a score for the candidate pair dependent  
13 on the frequency with which the candidate pair occurs in  
14 the list; and  
15 determining that each half of the candidate pair is  
16 an equivalent description for the information need if the  
17 score is above a defined threshold.

1 Claim 24 (original): An apparatus for determining  
2 equivalent descriptions for an information need,  
3 comprising:

4 means for identifying a list of queries issued by  
5 one or more users;  
6 means for identifying a candidate pair of equivalent  
7 descriptions by locating two queries that refer to the  
8 same information need;  
9 means for calculating a score for the candidate pair  
10 dependent on the frequency with which the candidate pair  
11 occurs in the list; and  
12 means for determining that each half of the  
13 candidate pair is an equivalent description for the  
14 information need if the score is above a defined  
15 threshold.

1 Claim 25 (original): An apparatus for determining  
2 equivalent descriptions for an information need,  
3 comprising:  
4 at least one memory having program instructions, and  
5 at least one processor configured to execute the  
6 program instructions to perform the operations of:  
7 identifying a list of queries issued by one or more  
8 users;  
9 identifying a candidate pair of equivalent  
10 descriptions by locating two queries that refer to the  
11 same information need;  
12 calculating a score for the candidate pair dependent  
13 in the frequency with which the candidate pair occurs in  
14 the list; and  
15 determining that each half of the candidate pair is  
16 an equivalent description for the information need if the  
17 score is above a defined threshold.



1 Claim 26 (new): The computer-implemented method of claim  
2 1 wherein the list of queries is a list of previously  
3 submitted search queries.

1 Claim 27 (new): The apparatus of claim 25 wherein the  
2 list of queries is a list of previously submitted search  
3 queries.